

## REMARKS

Reconsideration and allowance are respectfully requested in view of the foregoing amendments and the following remarks.

Claims 12-20 are pending in this application.

### Regarding the 103 Rejection

Claims 12-20 were rejected under rejected under 35 U.S.C. § 103 as being rendered obvious by Tayebati (U.S. Patent No. 6,324,192) in view of Kudo (U.S. Patent No. 5,303,255) and Baillargeon (U.S. Patent No. 6,326,646).

Applicant respectfully points out that Section 706.02(j) of the M.P.E.P. holds that there are three necessary elements to establish a *prima facie* case of obviousness as adopted from *In re Vaeck*. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *In re Vaeck*, 947 F.2d 488. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and their reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *Id.*

Applicant respectfully submits that a *prima facie* case of obvious has not been established in the present office action. Applicant agrees with the Examiner that Tayebati fails to teach a support layer formed over the walls of the second layers. Baillargeon teaches that there are no gaps between the layers. Indeed, Baillargeon teaches that there is cladding and not gaps between the multiple layers. Furthermore Baillargeon indicates that if the cladding regions 12 or 16 are omitted, the remaining incorporated layers would be in contact with each other. Col. 5, lines 46-50. Also, the layers of Tayebati are created to be moveable

and tuned within the gap. The solid gapless structure of Baillargeon is not compatible with Tayebati. Thus firstly, there is no suggestion or motivation to combine the references, because any combination of Tayebati and Baillargeon would be contradictory to the functionality of Tayebati. As such, the Examiner has not provided a proper explanation of the of the suggestion or motivation to combine the cited art. Secondly, there can be no expectation of success based on the combined cited art because the Examiner has not made it clear how one would combine the rigid, gapless structure of Baillargeon with the moveable layers of Tayebati to created a successful, working device. Finally, the cited art does not teach each and every element of the pending claims. In particular, none of the cited art, Baillargeon, Tayebati, and Kudo, teaches the rigid gaps between layers in the claimed Bragg reflector structure. As such, Applicant strongly submits that a *prima facie* case of obviousness has not been established for any of the pending claims 12-20. Applicant respectfully requests that the §103 be withdrawn.

Further more not withstanding the lack of a *prima facie* case of obviousness, claim 12, as currently amended, requires the support layer to be formed over a portion of the walls to support the second layers against collapse into one or more gaps.

Applicant agrees with the Examiner that Tayebati teaches a Bragg reflector with one or more first layers adjacent to one or more second layers and further teaches a reflector having at least one sidewall. Applicant also agrees that Tayebati fails to teach a support layer formed over the walls of the second layers.

With respect to the Baillargeon insulation layer (18) and conductive layer (20), these are not defined or described as a support layer. Furthermore, the Baillargeon insulation layer completely covers the sidewalls of the layers. Finally, Baillargeon teaches that there are no gaps between the layers but instead it teaches that there are multiple layers including cladding region 16, active region 24 or high refractive index regions 14.1 and 14.2. Applicant

respectfully points out that even if the cladding regions 16 or 12 are omitted as discussed in Baillargeon at col. 5, lines 46-50 no gap is envisioned between the included layers. Furthermore, any combination of Tayebati with Baillargeon would render Tayebati non-functional. That is the layers of Tayebati are cantilevered so that they can be moved and tuned within the gap. Baillargeon would disable the tune-ability of Tayebati's tunable structure.

As such, Applicant respectfully submits that claim 12 is not rendered obvious by the cited art because the claimed support layer is formed over a portion of the sidewalls and the support layer is used to support the second layers against collapse into one or more gaps. As such, claim 12 is not taught, alluded to or rendered obvious by the cited art and the Applicant respectfully requests that the § 103 rejection be withdrawn.

With respect to claim 13, this claim is dependent upon claim 12 and is therefore not rendered obvious for at least the same reasons as stated above with respect to claim 12.

With respect to claim 14, this claim requires that the support layer be electrically conductive. Applicant respectfully submits that the layer of Baillargeon that is in contact with the "would be" sidewalls of the core region of Baillargeon is the electrically insulating layer 18. Applicant submits that the first electrode 20 of Baillargeon is a separate layer which is not used to support the core region of the Baillargeon structure of Figure 1. Furthermore, since no gaps are found within the Baillargeon core region 14, no support structures are actually required, thus the electrically insulating layer 18 of Baillargeon, which completely covers the core region 14 on all sides, does not teach or obviate the presently claimed support layer as being electrically conductive. That is, claim 14, being dependent upon claim 12, is not rendered obvious for at least the same reasons as discussed above with respect to claim 12. Furthermore, the Baillargeon reference requires that the electrically insulating layer 18 completely covers the core region 14 such that the first electrode 20 does

not come in contact with the edges of the core regions. As such, Baillargeon further teaches away from the presently claimed invention of claim 14. Claim 14 is submitted to be ready for allowance. Applicant respectfully requests that the § 103 rejection be withdrawn.

With respect to claim 15, the cited art requires that the core region of Baillargeon 14 be completely covered by a support layer. As stated above with respect to claims 12 and 14, the support layer of the present invention only covers a portion of the structural layers 12 of the present invention. As such, Baillargeon teaches away from the present invention by requiring the covering of the entire core region 14 of Baillargeon as opposed to a portion thereof. Applicant respectfully submits that claim 13 is not taught, alluded to or rendered obvious by the cited art and respectfully requests that the § 103 rejection be withdrawn.

With respect to independent claim 16, Applicant agrees with the Examiner that Tayebati lacks reference to a support layer about a portion of the edges. Furthermore, Applicant points out that Baillargeon completely covers all the sidewalls of the layers disclosed in Baillargeon core region 14. As such, none of the art cited teaches, alludes or renders obvious providing a support layer about a portion of the edges for supporting the structural layers. Furthermore, Applicant respectfully submits that Baillargeon does not teach the use of gaps in its core region. That is, even if the cladding regions 16 and 12 were omitted as discussed in Baillargeon at col. 5, lines 46-49 no gaps are created because the utilized layers are on top of each other. That would not establish a plurality of structural layers on a substrate, each spaced apart by a gap. Again, Applicant respectfully submits that claim 16 is not taught, alluded to or rendered obvious by the cited art. As such, Applicant respectfully requests that the § 103 rejection be withdrawn and submits that claim 16 is ready for allowance.

Claim 17 is dependent upon claim 16 and is therefore not rendered obvious for at least the same reasons as stated above with respect to claim 16. Furthermore, if Tayebati were

combined with Baillargeon, in order to attempt to create the claimed Bragg reflector, the primary purpose of Tayebati would be rendered non-functional because electrostatic force could not be used to move or tune the layers as required. As such, Applicant respectfully submits that claim 17 is not rendered obvious by the cited art based on Tayebati's use of sacrificial layers and Baillargeon's insulation layer 18 completely covering the core region 14. Applicant respectfully requests that this § 103 rejection be withdrawn and submits that claim 17 is ready for allowance.

Claims 18 and 19 are not rendered obvious for at least the same reasons as discussed above with respect to claims 16. Applicant respectfully submits that these claims are ready for allowance.

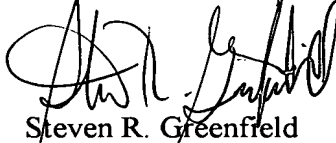
Regarding claim 20, Tayebati nor Baillargeon teach, allude to, or render obvious the usefulness of only covering a portion of Baillargeon's core region 14 with an insulating layer 18. Furthermore, Baillargeon teaches completely covering the top of the structural layers rather than a 'partial' covering. See Figure 1 of Baillargeon with the first electrode 20. As such, if the Examiner considers that the Baillargeon layers 20 and 18 are both support layers then Baillargeon completely covers the top of Baillargeon's core region 14. As such, Applicant respectfully submits that claim 20 has not taught, alluded to or rendered obvious by this cited art and respectfully requests that this § 103 rejection be withdrawn.

Should the Examiner have any further questions or comments facilitating allowance, the Examiner is invited to contact Applicant's representative indicated below to further prosecution of this application to allowance and issuance.

In view of the above, it is believed that this application is in condition for allowance,  
and such a Notice is respectfully requested.

Respectfully submitted,

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Date: April 10, 2003

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